शेषफल प्रमेय

$$\frac{2^{31}}{5} = \frac{2^{3}}{5} = \frac{8}{5} = 3 \quad \text{Ans}$$

$$\left.\frac{a}{n}\right\}^{n-1}$$ Fermat's No. $= n-1$

(4)

Concept -5

$$\frac{4^{n}}{6} \Rightarrow \text{शेष. (Rem.)} \Rightarrow (4)$$

$$\frac{4^{1}}{6} = 4$$

$$\frac{4^{2}}{6} = 4$$

$$\frac{4^{3}}{6} = 4$$

$$\frac{4^{9869}}{6} = (4) \text{ Ans}$$

Q $3^{61284} \div 5 = x$

$4^{96} \div 6 = y$

$\sqrt{2x+y} = ?$

$\sqrt{2+4}$

$\sqrt{6}$ Ans.

61284

$\frac{3}{5}$ → F.N. ④

शेष = ① x

$\frac{4^{96}}{6}$ = ④ y

$$\frac{31^{31^{31^{31}}}}{32} = ?$$

odd / विषम

$$\frac{31^{\text{odd}}}{32} = (-1)^{\text{odd}}$$

$$\Rightarrow -1$$

$$32 - 1 = 31 \quad \text{Ans}$$

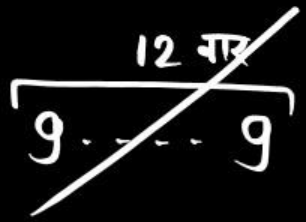
Concept-6 Special { Prime NO. अभाज्य संख्या }

(I) $\frac{55555\ldots\ldots(16\text{ बार})}{17}$ = Rem. = 0

(II) $\frac{8888\ldots\ldots(22\text{ बार})}{23}$ = Rem. = 0

(III) $\frac{777\ldots\ldots(36\text{ बार})}{37}$ = शेष. = 0

$$\frac{9999\ldots\ldots(14\text{ बार})}{13} = \text{शेष.}/R = ?$$



$$\frac{99}{13} = 8$$ Ans

$$\frac{8888\ldots\ldots\ (34\ \text{बार})}{17}$$

16 16

$8\ldots\ldots8$ $8\ldots\ldots8$ $\frac{88}{17} = 3$ Ans.

16

$$\frac{7777\cdots\cdots(92\text{ बार})}{19}$$

$18 \times 5 = 90$ | $\frac{77}{19} = 1$ Ans

Special

odd / विषम

$\frac{2}{6}$ = शेष. (R) ②

even / सम

$\frac{2}{6}$ = शेष (R) = ④

$\frac{2^1}{6} = 2$

$\frac{2^3}{6} = 2$

$\frac{2^5}{6} = 2$

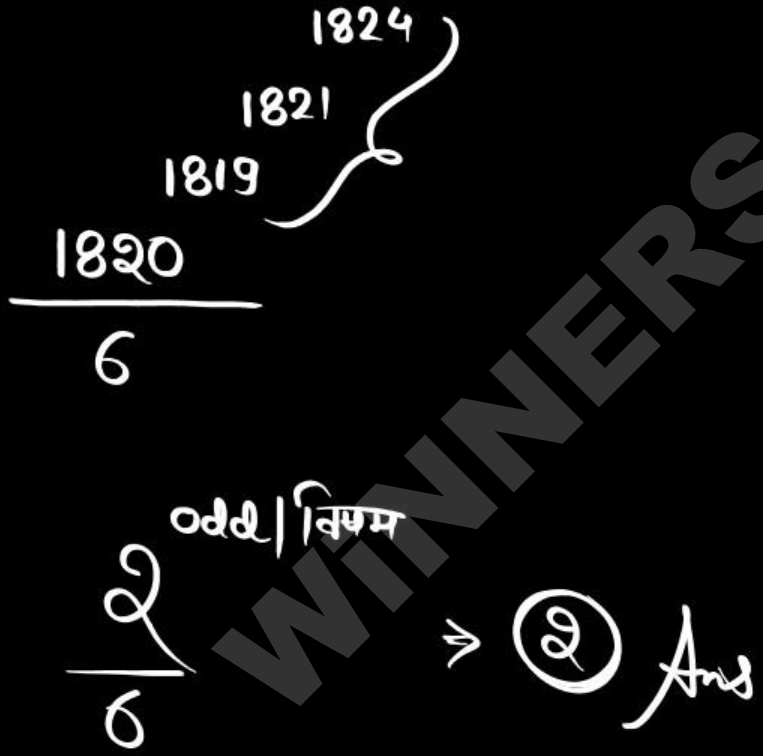
$\frac{2^2}{6} = 4$

$\frac{2^4}{6} = 4$

$\frac{2^6}{6} = 4$

322
94
9686

$\frac{218}{6}$ = शेष. (R)



$$\frac{20^1 + 20^2 + 20^3 + 20^4 + \cdots\cdots + 20^{40}}{6} = \text{शेषफल (R)}$$

$$\frac{\overline{2^1} + \overline{2^2} + 2^3 + 2^4 + \cdots\cdots + 2^{39} + 2^{40}}{6}$$

$$\frac{\overline{2+4} + \overline{2+4} + \cdots\cdots + \overline{2+4}}{6} = 0 \text{ Ans}$$